

HEMATOLOGY WAIVERS

CONDITION: ANEMIAS/ACQUIRED (INCLUDING IRON DEFICIENCY ANEMIA)

Revised March 2003

AEROMEDICAL CONCERNS: Anemia is defined as a decrease in the hemoglobin concentration of whole blood below the lower limit of the normal range. It varies with age and sex. Anemia may arise acutely following blood loss, from decreased red cell production, or from increased destruction (hemolysis), and may be acquired or congenital. The degree of anemia and resultant end organ hypoxia, as well as the underlying disorder that may have been responsible for the anemia, both represent major concerns to aviation safety. While most individuals are asymptomatic with whole blood hemoglobin concentrations above 10.0 g./dl. or hematocrits above 30 percent, the clinical manifestations of anemia will vary with the speed of onset and the physical activity of the patient.

Acquired anemias of concern include both those due to decreased red cell production and those due to hemolysis. Decreased red cell production may result from deficiency of nutrients essential for hemoglobin synthesis, decreased erythropoietin production, or intrinsic marrow failure (aplastic anemia or marrow replacement). Some of the underlying causes of these anemias are readily reversed with treatment, while others are due to conditions that are serious and not readily reversible. In general, most acquired hemolytic anemias are secondary to other medical conditions and many are reversible with appropriate treatment.

WAIVERS: Initial Applicants (All Classes) and Rated Aviation Personnel (All Classes): Anemia is disqualifying for aviation service. While there is little data available relating the degree of anemia to aviation activity, individuals with hemoglobin levels less than 12.0 g./dl., and 11.0 g./dl., for men and women respectively, are not eligible for flying duty. Exceptions to policy or waivers will be granted if the underlying reason for the anemia is not disqualifying and the anemia is fully resolved. Conditions with associated anemia that are recurrent, progressive, or symptomatic will generally not be granted an exception to policy or waiver.

INFORMATION REQUIRED: In the case of an individual who has no prior history of anemia, and whose hematocrit or hemoglobin concentration is found to be below 40 percent or 14.0 g./dl., and 37 percent and 12.0 g./dl., for men and women respectively, the hematocrit and hemoglobin concentration should be repeated 3 times. The average of these determinations should be demonstrated to be below these lower limits of normal prior to initiating work-up. The following clinical and laboratory data is required for an exception to policy or waiver request:

1. Clinical history of the condition, including diagnosis and course.
2. Complete physical examination, with particular attention to possible lymphadenopathy or hepatosplenomegaly.
3. Stool Guaiac from 3 separate stools.
4. CBC with red cell indices, peripheral smear examination including red cell morphology, and reticulocyte count.
5. Serum iron, TIBC, and serum ferritin.
6. Serum folate and B12.
7. Other laboratory tests - Basic metabolic and hepatic panel and thyroid functions.
8. Internal Medicine or Hematology Consultation.

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FOLLOW-UP: Follow-up will be directed at insuring treatment response and resolution or control of the underlying disease process. Complete CBC with all comprehensive FDME.

TREATMENT: Oral iron supplements are authorized for use for documented iron deficiency. Continued use of iron, folate, and B₁₂ supplements, or other medications (e.g. thyroid supplements) require waiver.

DISCUSSION: The differential diagnosis of anemia is extensive. The local flight surgeon may proceed with the evaluation of anemia to his/her level of expertise. Decisions as to eligibility for flight status are determined by the waiver criteria. Interim assignment of a DNIF status should be based on the level of hemoglobin concentration, the rate of its decline, and the health of the aviator. Unexpected symptoms or a fall of hemoglobin to less than 11.0 g./dl. should result in prompt grounding and evaluation.

REFERENCE:

Merck Manual, Chapter 27 found online at: <http://www.merck.com/pubs/mmanual/>